

REMARKS

Claims 1-12 are pending in the Application. The term “participants” has been changed to “participant’s” to correct an informality at Claim 3, line 2, and at Claim 11, line 2. Claim 7 has been amended by: (i) changing “executing” to “using a workflow engine that executes” at line 3; (ii) deleting the phrase “storing user context information” at line 5; (iii) adding the phrase “using a context service to provide context-aware applications with user context information” at lines 6-7; (iv) adding the phrase “from the workflow engine to an interaction controller” at lines 8-9; and (v) changing “context information” to “context service” at lines 11-12. These changes are done to make Claim 7 consistent with Claim 1, lines 3, 4-5, 6, and 8-9, and are supported by Figure 1 and by the Specification at page 7, lines 8-27. In addition, Claim 1 has been amended at lines 6-7 to clarify that the interaction controller “acts as a proxy to represent one or more human participants in a workflow,” and a similar amendment has been made to Claim 7, lines 9-10. Support for these amendments may be found in the Specification at page 5, line 14. Finally, Claim 1 has been amended at lines 18-19 to clarify that the modality adapter is “to receive a task from the interaction controller and deliver the task to said partner instance in a modality-specific format,” and a similar amendment has been made to Claim 7, lines 16-17. Support for these amendments may be found in the Specification at page 5, lines 27-28. No new matter is added.

Claims 1-12 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,334,146 to Parasnis et al. Applicants traverse as discussed below.

The Claimed Invention

The term “workflow” refers to the automatic routing of documents to users responsible for working on them. (See, e.g., the TechEncyclopedia at TechWeb.com) As discussed in the Specification, a workflow management system includes a workflow engine that carries out automatic scheduling and activation of component tasks according to defined business process, while also providing formalisms through which business processes are defined. Prior art workflow systems are based on the desktop computing paradigm and employ a workspace metaphor to present tasks that are to be claimed and performed by human participants. Such tasks differ from tasks that are performed by software agents and are referred to as staff activities. (Specification, page 2, lines 16-23)

Prior art approaches have a number of disadvantages, including: (i) users are constrained to the desktop computing environment and do not have access to business processes when they are away from their desktop; (ii) a user is burdened to periodically inspect his or her workspace to check out pending staff activities; and (iii) prior art approaches allow for indirect and asynchronous communication, but do not allow for direct and synchronous exchanges among human participants, which is very common in business environments. (Specification, page 3, lines 7-15)

Addressing these disadvantages, the claimed invention provides a system for pervasive enablement of business processes in which a workflow engine executing a business process model has access to a context service to allow context-aware applications to obtain user context information. An interaction controller, acting as a proxy for human participants in a workflow, determines an appropriate collaboration modality for a human participant, and one or more modality adapters encapsulate details of communicating with a specific collaboration modality to receive a task from the interaction controller and deliver the task in a modality-specific format. (Specification, page 5)

As shown in Figure 1, an interaction controller 1040 interfaces with a workflow engine 1030 and a context service 1050. The workflow engine 1030 executes the business process based on business process models 1010 and engages human partners through software agents 1100 and invoking software applications 1020 by dispatching various tasks to them. Acting as a proxy for all human participants in a workflow, the interaction controller 1040 receives specification of individual staff activities from the workflow engine 1030 and forwards the engine responses from human partners back to the workflow engine 1030. A staff activity specification contains information about the human partner instance intended to carry out the activity and the relevant messages. Upon receiving a staff activity specification, the interaction controller 1040 obtains context information of the partner instance from the context service 1050 and determines an appropriate collaboration modality for the partner instance. It uses an address book 1090 to look up the modality-specific address (e.g., telephone number, email address, instant messaging identifier) based on the user name. It then establishes communication with the corresponding modality adapters (e.g., instant messaging adapter 1060, short messaging service adapter 1070, or email adapter 1080) and supplies it with all the information regarding the staff activity. (Specification, page 7, lines 8-27)

Rejection of Claims 1-12 Under 35 U.S.C. § 102(b)

Claims 1-12 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Parasnis et al. Applicants traverse on the basis that Parasnis et al. do not describe or anticipate Claims 1-12. Parasnis et al. describe a prior art system which does not anticipate features of independent Claims 1 and 7, from which the other claims depend. More particularly, Parasnis et al. do not anticipate use of a context service (Claim 1, lines 4, 12; Claim 7, lines 6, 11-12), an interaction controller (Claim 1, line 6; Claim 7, line 9), or a modality adapter (Claim 1,

line 17; Claim 7, lines 14, 18) as required by Claims 1 and 7.

Requirement of a "Context Service"

Claims 1 and 7 require a context service, which enables the workflow engine to obtain user context information. (Claim 1, lines 4-5; Claim 7, lines 6-7) The context service of the claimed invention "gathers and distributes dynamic context information of the human participants," thus enabling the interaction controller "to select the access mechanism that is most convenient for a particular human participant." (Specification, page 5, line 22-23, 24-25) As discussed above, Claims 1 and 7 use this feature to solve problems not addressed in the prior art. The Examiner has incorrectly understood "context" as referring to the role of a human participant in a workflow. (*see* Office Action at 2, discussing Claim 1 and citing Parasnis et al., column 14, lines 32-50) The term "context service" is used in the Specification as follows:

The Context Service 1050 provides both dynamic user context information and static user preferences. Dynamic context information currently available from the Context Service includes IM online status, activities and contact means derived from calendar entries, desktop activities, as well as user location reported from a variety of sources such as cellular providers, wireless Local Area networks (LANs), Global positioning Satellite (GPS) devices, and handheld Personal Digital Assistants (PDAs) such as Research in Motion Ltd. BlackBerry™ devices.

(Specification, page 8, line 22 – page 9, line 1) Because a "context service" is required by Claims 1 and 7 (Claims 1, line 4, 13; Claim 7, lines 6, 11-12), the Examiner's misunderstanding of this term fundamentally undermines the basis of the rejection these claims.

Requirement of an "Interaction Controller"

To overcome disadvantages of the prior art, Claims 1 and 7 also require an interaction controller which "acts as a proxy to represent one or more human participants in a workflow." (Claim 1, lines 6-7; Claim 7, lines 9-10) Because the interaction controller acts as a proxy for human participants in a workflow, the functionality of the interaction controller is applied every time a document is to be routed to a human participant in the workflow. The interaction controller "obtains context information of a partner instance from the context service to determine an appropriate collaboration modality for the partner instance." (Claim 1, lines 11-13, emphasis added; *see also* Claim 7, lines 11-13) This results in the workflow being adapted on the fly, while it is in progress, to use the most appropriate modality for contacting each human participant in the workflow. Parasnis et al. do not teach or disclose this feature.

The Examiner incorrectly found these and other feature of Claims 1 and 7 to be anticipated by Parasnis et al. In making this incorrect finding, the Examiner relies in part on the following passage from Parasnis et al.:

FIG. 10 is a diagram of one embodiment of designing an inter-enterprise workflow that includes parameterization over groups. As shown, the workflow can begin with a listening activity 70 that waits for some event. Activity 70 can be linked to parallel activities 71 that links to a sub-workflow 72 and to a heterocast split 73. Sub-workflow, itself, can include a workflow definition. With respect to HETEROCASTING, the workflow after heterocast split 73 then becomes parameterized. Thus, in the example of FIG. 10, activity 74 is a parameterized activity. After activity 74, a heterocast join 75 receives flow from activity 74. Sub-workflow 72 and heterocast join 75 are linked to a synchronous or asynchronous join 76 which, in turn, links to an integrated event 77

(e.g., multicasting). A workflow like that of FIG. 10 can be designed using the present global collaboration designer and can allow full representation of workflow for inter-enterprise decision support. This workflow can then be instantiated and implemented through the present global collaboration manager.

FIG. 11 is a diagram of one embodiment of managing change by modifying a design of a workflow. As shown, an initial workflow design can have an event 70 linked to a parallel activity split 71. Between activity split 71 and a join 76, there can be, for example, two activities 78. This workflow, once designed, can be instantiated and implemented using the global collaboration manager. If a change needs to be made to the workflow, the global collaboration designer greatly alleviates the trouble of making the change. For example, a new activity 79 can be added between split 71 and join 76. The workflow can then be centrally reinstantiated and implemented.

(Parasnis et al., column 13, lines 54-67, cited in the Office Action at 3) Neither the cited passage from Parasnis et al., nor the drawings discussed in that passage, describe the feature of the claimed invention which the Examiner finds to be anticipated by the cited passage. Parasnis et al. do not anticipate using an interaction controller, acting as a proxy to represent human participants in a workflow, to obtain context information of a partner instance from a context service to determine an appropriate collaboration modality for the partner instance.

Requirement of a "Modality Adapter"

Claims 1 and 7 further require the use of modality adapters that encapsulate details of communicating with specific collaboration modalities to receive a task from the interaction controller and deliver the task to a partner instance in a modality-specific format. (Claim 1, lines 17-19; Claim 7, lines 14-17) The Examiner incorrectly concluded that Parasnis et al. anticipate one or more modality adapters (Office Action at 3), even though the passage of the disclosure of Parasnis et al. relied on for this purpose does not include any discussion of employing multiple communications modalities:

The global collaboration manager can support a component-based integration model. The component-based integration model allows flexibility in structuring the integration. There can be two types of components: primitive components and compound components. Primitive components can include accessors 80, transformers 82 and transfer objects 84. Compound components include adaptors and flows 86. Compound components are built in terms of primitive components. In this scheme, accessors 80 are used to access an external source such as SCP (SUPPLY CHAIN PLANNER), SAP, a relational database, web servers, email, message buses etc. Accessors 80 can be used to read, write or listen to sources and destinations of data. Transformers 82 can be used to transform data from one form to another form. Transfer Objects 84 are objects that can be passed from activity to activity or from enterprise to enterprise. Transfer objects 84 can be optionally convertible to EDI, XML, CORBA structures etc. Accessors 80 and Transformers 82 can be strung together to form flows. An entire flow can be executed in a single activity as shown in FIG. 13.

(Parasnis et al., column 15, lines 1-29, cited in the Office Action at 3) Thus, while Parasnis et al. make reference to “adaptors” (Parasnis et al., column 15, line 16), those are not the modality adapters of the claimed invention. Parasnis et al. do not anticipate the use of modality adapters as in Claims 1 and 7.

Dependent Claims

With regard to Claims 2, 3, and 4, the Examiner has again misunderstood “context” as discussed in connection with Claim 1, above. (Office Action at 3, discussing Claim 2 and citing Parasnis et al., column 14, lines 32-50) Parasnis et al. do not use “context” in the same sense as the claimed invention.

With regard to Claim 4, the Examiner is incorrect in finding that Parasnis et al. anticipate the requirement “wherein the context service supports both synchronous query and asynchronous callback context functions.” (Claim 4, lines 1-2, emphasis added) Where Parasnis et al. refer to synchronous or asynchronous communications with native applications as part of the workflow activities (Parasnis et al., column 5, lines 11-16, cited in the Office Action at 4), Claim 4 refers to obtaining context information in a synchronous or asynchronous manner from the context service in preparation for a workflow activity. This is not anticipated by Parasnis et al.

With regard to Claims 5 and 6, the Examiner is incorrect in reading Parasnis et al. as anticipating the use of multiple communications modalities, as discussed above.

The Examiner does not specifically discuss Claims 8-12, except to incorporate the rejection of Claims 2-6 by reference. For that reason, the traversal of Claims 2-6 is extended by reference to Claims 8-12.


Conclusion

In view of the foregoing, it is respectfully requested that the application be reconsidered, that Claims 1-12 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Deposit Account 50-0510 (IBM-Yorktown).

Respectfully submitted,



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